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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/997,931	11/30/2001	Eric T. Kool	220.00010150	5355
26813	7590	12/27/2005	EXAMINER	
MUETING, RAASCH & GEBHARDT, P.A.				MCGARRY, SEAN
P.O. BOX 581415				ART UNIT
MINNEAPOLIS, MN 55458				PAPER NUMBER
				1635

DATE MAILED: 12/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/997,931	KOOL, ERIC T.
	<b>Examiner</b>	<b>Art Unit</b>
	Sean R. McGarry	1635

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 23 May 2005.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 96-115, 117 and 121 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 96-102, 104, 105, 108-110, 113-115, 117, and 121 is/are allowed.

6)  Claim(s) 103, 106, 107, 111 and 112 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. \_\_\_\_ .  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_ .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_ .

## DETAILED ACTION

Applicant's arguments in view of the amendments made in the papers filed 5/23/05, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made over claims 103, 106, 107, 111, and 112.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 103, 106, 107, 111, and 112 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a written description rejection.

The claimed invention is a method of expressing an RNA oligonucleotide in a cell from a single stranded circular oligonucleotide template. Claim 103 requires the expressed oligonucleotide be circular. Claim 106 requires that the RNA oligonucleotide have endonuclease, exonuclease, polymerase, ligase, phosphatase, dephosphatase, or protease activity. Claim 107 requires that the RNA oligonucleotide have intermolecular ligase activity. Claim 111 requires that the RNA oligonucleotide be a ribozyme that

cleaves RNA, DNA or protein. Claim 112 requires that the RNA oligonucleotide modifies the structure or function of a DNA, RNA, or protein that is disease associated.

The specification discloses RNAs that may be antisense triplex or ribozymes, for example. The specification does not provide any description of RNA oligonucleotides that form circles in a cell. What structure of an RNA oligonucleotide would allow the formation of a circle in a cell of a plant, animal or bacteria, for example? Would that structure work in all three, or would different structures be required, for example. The specification does not provide a description of RNA oligonucleotides that the specified activities of claim 106. A ribozyme is the closest moiety to having an endonuclease activity, but what structure of an RNA oligonucleotide would provide exonuclease, polymerase, phosphorylase, etc? The specification does not provide the structure of a RNBA oligonucleotide that would have cleave a DNA or a protein or that would change the structure of a DNA or protein or the function of a function of an RNA, DNA or protein that is associated with a disease. The prior art does not appear to provide a description of any of the above such that one in the art would know the structures that impart the functions required in the instant claims. One in the art would not know based on the teachings of the specification as filed or the prior art as described in the specification what specific structures, for example what sequences, would provide for the functions required in the claims. The specification does not provide any core structure or structural motif such that one in the art would know that such a structure would have any of the required functions required of the RNA oligonucleotides of the invention. The specification also does not provide sufficient number of species such that a genus of

any of the RNA oligonucleotide with the required functions would be described. The specification also does not show that the prior art provides such a description.

Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, makes clear that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed*." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116.)

The skilled artisan cannot envision the detailed chemical structure of the RNA oligonucleotide of the instant invention, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it. The nucleic acid itself is required. See Fiers v. Revel, 25 USPQ2d 1601, 1606 (CAFC 1993) and Amgen Inc. V. Chugai Pharmaceutical Co. Ltd., 18 USPQ2d 1016. In Fiddes v. Baird, 30 USPQ2d 1481, 1483, claims directed to mammalian FGF's were found unpatentable due to lack of written description for the broad class. The specification provided only the bovine sequence.

The specification, as filed therefore fails to provide an adequate description of the claimed invention.

Claims 96-102, 104, 105, 108-110, 113-115, 117, and 121, are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean R. McGarry whose telephone number is (571) 272-0761. The examiner can normally be reached on M-Th (6:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sean R McGarry  
Primary Examiner  
Art Unit 1635